

10/530421

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/530,421
Source: PG10
Date Processed by STIC: 11/8/05

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PCT

RAW SEQUENCE LISTING

DATE: 11/08/2005

PATENT APPLICATION: US/10/530,421

TIME: 12:07:48

Input Set : A:\54A-000170PC.ST251.txt

Output Set: N:\CRF4\11082005\J530421.raw

3 <110> APPLICANT: The Scripps Research Institute
 4 Schultz, Peter
 5 Wang, Lei
 7 <120> TITLE OF INVENTION: SITE SPECIFIC INCORPORATION OF KETO AMINO ACIDS INTO
 PROTEINS

9 <130> FILE REFERENCE: 54A-000170PC
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/530,421
 C--> 12 <141> CURRENT FILING DATE: 2005-04-05

14 <160> NUMBER OF SEQ ID NOS: 24
 16 <170> SOFTWARE: PatentIn version 3.1
 18 <210> SEQ ID NO: 1

19 <211> LENGTH: 918
 20 <212> TYPE: DNA
 21 <213> ORGANISM: artificial
 23 <220> FEATURE:

24 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA
 synthetase

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 29 agagaggttt taaaaaaaga tgaaaaatct gctgggatag gttttgaacc aagtggtaaa 120
 31 atacatttag ggcattatct ccaaataaaa aagatgattg atttcaaaa tgctggattt 180
 33 gatataatta tattgttggc tgattttacac gcctatttaa accagaaagg agagttggat 240
 35 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca 300
 37 aaatgtgctt atggaagtcc ttccagctt gataaggatt atacactgaa tgtctataga 360
 39 ttggctttta aaactacctt aaaaagagca agaaggagta tggaacttat agcaagagag 420
 41 gatgaaaatc caaagggttg tgaaagttatc tatccaataa tgcagggttaa tggttatcat 480
 43 tatcttggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca 540
 45 agggagcttt taccaaaaaa gggtgtttgt attcacaacc ctgtcttaac ggggttggat 600
 47 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctgttgatga ctctccagaa 660
 49 gagattaggg ctaagataaa gaaagcatac tgcccagctg gagttgttga aggaaatcca 720
 51 ataattggaga tagctaaata ctcccttgaa taccctttaa ccataaaaag gccagaaaaa 780
 53 ttgtgtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag 840
 55 gaattgcata caatggattt aaaaaatgct gtagctgaag aacttataaa gatttttagag 900
 57 ccaattagaa agagatta 918

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 62 <212> TYPE: DNA
 63 <213> ORGANISM: artificial
 65 <220> FEATURE:

66 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA
 synthetase

68 <400> SEQUENCE: 2
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 71 agagaggttt taaaaaaaga tgaaaaatct gctcagatag gttttgaacc aagtggtaaa 120

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73 atacatttag ggcattatct ccaaataaaa aagatgattg atttacaaaa tgctggattt 180
75 gatataatta tattgttggc tgatttacac gctatttaa accagaaagg agagttggat 240
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77 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca 300
79 aaatatgttt atggaagtcc ttccagctt gataaggatt atacactgaa tgtctataga 360
81 ttggctttta aaactacctt aaaaagagca agaaggagta tggaacttat agcaagagag 420
83 gatgaaaatc caaagggttg tgaagttatc tatccaataa tgcagggtta ttgttctcat 480
85 tattatggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca 540
87 agggagcttt taccaaaaaa ggttgtttgt attcacaacc ctgtcttaac gggtttggat 600
89 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctggtgatga ctctccagaa 660
91 gagattaggg ctaagataaa gaaagcatac tgcccagctg gagttggtga aggaaatcca 720
93 ataatggaga tagctaaata cttccttgaa taccctttaa ccataaaaag gccagaaaaa 780
95 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag 840
97 gaattgcac caatggattt aaaaaatgct gtagctgaag aacttataaa gatttttagag 900
99 ccaattagaa agagatta 918

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102 <210> SEQ ID NO: 3

103 <211> LENGTH: 918

104 <212> TYPE: DNA

105 <213> ORGANISM: artificial

107 <220> FEATURE:

108 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA synthetase

110 <400> SEQUENCE: 3

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113 agagagggttt taaaaaaaga tgaaaaatct gctactatag gttttgaacc aagtggtaaa 120
115 atacatttag ggcattatct ccaaataaaa aagatgattg atttcaaaa tgctggattt 180
117 gatataatta tattgttggc tgatttacac gcctatttaa accagaaagg agagttggat 240
119 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca 300
121 aaatatgttt atggaagtac gttccagctt gataaggatt atacactgaa tgtctataga 360
123 ttggctttta aaactacctt aaaaagagca agaaggagta tggaacttat agcaagagag 420
125 gatgaaaatc caaagggttg tgaagttatc tatccaataa tgcagggtta tccgttgcac 480
127 tatgctggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca 540
129 agggagcttt taccaaaaaa ggttgtttgt attcacaacc ctgtcttaac gggtttggat 600
131 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctggtgatga ctctccagaa 660
133 gagattaggg ctaagataaa gaaagcatac tgcccagctg gagttggtga aggaaatcca 720
135 ataatggaga tagctaaata cttccttgaa taccctttaa ccataaaaag gccagaaaaa 780
137 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag 840
139 gaattgcac caatggattt aaaaaatgct gtagctgaag aacttataaa gatttttagag 900
141 ccaattagaa agagatta 918

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144 <210> SEQ ID NO: 4

145 <211> LENGTH: 918

146 <212> TYPE: DNA

147 <213> ORGANISM: artificial

149 <220> FEATURE:

150 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA synthetase

152 <400> SEQUENCE: 4

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153 atggacgaat ttgaaatgat aaagagaaac acatctgaaa ttatcagcga ggaagagtta 60
155 agagagggttt taaaaaaaga tgaaaaatct gctcatatag gttttgaacc aagtggtaaa 120
157 atacatttag ggcattatct ccaaataaaa aagatgattg atttcaaaa tgctggattt 180
159 gatataatta tattgttggc tgatttacac gcctatttaa accagaaagg agagttggat 240
161 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca 300
163 aaatatgttt atggaagtga gttccagctt gataaggatt atacactgaa tgtctataga 360
165 ttggctttta aaactacctt aaaaagagca agaaggagta tggaacttat agcaagagag 420

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167 gatgaaaatc caaaggttgc tgaagttatc tatccaataa tgcaggttaa tcggccgcac 480
169 tatcctggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca 540
171 agggagcttt taccaaaaaa ggttggttgc attcacaacc ctgtcttaac gggtttggat 600
173 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctgttgatga ctctccagaa 660
175 gagattaggg ctaagataaa gaaagcatac tgcccagctg gagttgttga aggaaatcca 720
177 ataattggaga tagctaaata cttccttgaa taccctttaa ccataaaaag gccagaaaaa 780
179 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag 840
181 gaattgcac ccaatggattt aaaaaatgct gtagctgaag aacttataaa gatttttagag 900
183 ccaattagaa agagatta 918

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186 <210> SEQ ID NO: 5

187 <211> LENGTH: 918

188 <212> TYPE: DNA

189 <213> ORGANISM: artificial

191 <220> FEATURE:

192 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA synthetase

194 <400> SEQUENCE: 5

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195 atggacgaat ttgaaatgat aaagagaaac acatctgaaa ttatcagcga ggaagagtta 60
197 agagaggttt taaaaaaaga tgaaaaatct gcttatatag gttttgaacc aagtggtaaa 120
199 atacatttag ggcattatct ccaaataaaa aagatgattg atttacaaa tgctggattt 180
201 gatataatta tattgttggc tgattttacac gcctatttaa accagaaagg agagttggat 240
203 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca 300
205 aaatatgttt atggaagtcc ttccagctt gataaggatt atacactgaa tgtctataga 360
207 ttggctttta aaactacctt aaaaagagca agaaggagta tggaaactat agcaagagag 420
209 gatgaaaatc caaaggttgc tgaagttatc tatccaataa tgcaggttaa tcagagtcac 480
211 tatgatggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca 540
213 agggagcttt taccaaaaaa ggttggttgc attcacaacc ctgtcttaac gggtttggat 600
215 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctgttgatga ctctccagaa 660
217 gagattaggg ctaagataaa gaaagcatac tgcccagctg gagttgttga aggaaatcca 720
219 ataattggaga tagctaaata cttccttgaa taccctttaa ccataaaaag gccagaaaaa 780
221 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag 840
223 gaattgcac ccaatggattt aaaaaatgct gtagctgaag aacttataaa gatttttagag 900
225 ccaattagaa agagatta 918

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229 <211> LENGTH: 918

230 <212> TYPE: DNA

231 <213> ORGANISM: artificial

233 <220> FEATURE:

234 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA synthetase

236 <400> SEQUENCE: 6

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237 atggacgaat ttgaaatgat aaagagaaac acatctgaaa ttatcagcga ggaagagtta 60
239 agagaggttt taaaaaaaga tgaaaaatct gcttcgatag gttttgaacc aagtggtaaa 120
241 atacatttag ggcattatct ccaaataaaa aagatgattg atttacaaa tgctggattt 180
243 gatataatta tattgttggc tgattttacac gcctatttaa accagaaagg agagttggat 240
245 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca 300
247 aaatatgttt atggaagtac gttccagctt gataaggatt atacactgaa tgtctataga 360
249 ttggctttta aaactacctt aaaaagagca agaaggagta tggaaactat agcaagagag 420
251 gatgaaaatc caaaggttgc tgaagttatc tatccaataa tgcaggttaa tacgtatcat 480
253 tatgctggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca 540
255 agggagcttt taccaaaaaa ggttggttgc attcacaacc ctgtcttaac gggtttggat 600

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257 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctggtgatga ctctccagaa      660
259 gagattaggg ctaagataaa gaaagcatac tgcccagctg gagttggtga aggaaatcca      720
261 ataatggaga tagctaaata ctcccttgaa taccctttaa ccataaaaag gccagaaaaa      780
263 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag      840
265 gaattgcac ccaatggattt aaaaaatgct gtagctgaag aacttataaa gatttttagag      900
267 ccaattagaa agagatta                                918

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270 <210> SEQ ID NO: 7

271 <211> LENGTH: 918

272 <212> TYPE: DNA

273 <213> ORGANISM: artificial

275 <220> FEATURE:

276 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA synthetase

278 <400> SEQUENCE: 7

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283 atacatttag ggcattatct ccaaataaaa aagatgattg atttacaaaa tgctggattt      180
285 gatataatta tattgttggc tgatttacac gcctatttta accagaaagg agagttggat      240
287 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca      300
289 aaatatgttt atggaagtat gttccagctt gataaggatt atacactgaa tgtctataga      360
291 ttggctttta aaactacctt aaaaagagca agaaggagta tggaaacttat agcaagagag      420
293 gatgaaaatc caaagggttc tgaagttatc tatccaataa tgcaggttta taatacgcat      480
295 tatgggggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca      540
297 agggagcttt taccaaaaaa gggtgtttgt attcacaacc ctgtcttaac ggggttggat      600
299 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctggtgatga ctctccagaa      660
301 gagattaggg ctaagataaa gaaagcatac tgcccagctg gagttggtga aggaaatcca      720
303 ataatggaga tagctaaata ctcccttgaa taccctttaa ccataaaaag gccagaaaaa      780
305 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag      840
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309 ccaattagaa agagatta                                918

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313 <211> LENGTH: 918

314 <212> TYPE: DNA

315 <213> ORGANISM: artificial

317 <220> FEATURE:

318 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA synthetase

320 <400> SEQUENCE: 8

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325 atacatttag ggcattatct ccaaataaaa aagatgattg atttacaaaa tgctggattt      180
327 gatataatta tattgttggc tgatttacac gcctatttta accagaaagg agagttggat      240
329 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca      300
331 aaatatgttt atggaagtca tttccagctt gataaggatt atacactgaa tgtctataga      360
333 ttggctttta aaactacctt aaaaagagca agaaggagta tggaaacttat agcaagagag      420
335 gatgaaaatc caaagggttc tgaagttatc tatccaataa tgcaggttta tcagactcat      480
337 tatgagggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca      540
339 agggagcttt taccaaaaaa gggtgtttgt attcacaacc ctgtcttaac ggggttggat      600
341 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctggtgatga ctctccagaa      660
343 gagattaggg ctaagataaa gaaagcatac tgcccagctg gagttggtga aggaaatcca      720
345 ataatggaga tagctaaata ctcccttgaa taccctttaa ccataaaaag gccagaaaaa      780

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347 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag      840
349 gaattgcata caatggattt aaaaaatgct gtagctgaag aacttataaa gatttttagag      900
351 ccaattagaa agagatta                                     918
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355 <211> LENGTH: 918
356 <212> TYPE: DNA
357 <213> ORGANISM: artificial
359 <220> FEATURE:
360 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA
synthetase
362 <400> SEQUENCE: 9
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365 agagagggttt taaaaaaaga tgaaaaatct gctcatatag gttttgaacc aagtggtaaa      120
367 atacatttag ggcattatct ccaaataaaa aagatgattg atttacaaaa tgctggattt      180
369 gatataatta tattgttggc tgatttacac gcctatttaa accagaaagg agagttggat      240
371 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca      300
373 aaatatgttt atggaagtaa gttccagctt gataaggatt atacactgaa tgtctataga      360
375 ttggctttta aaactacctt aaaaagagca agaaggagta tggaaacttat agcaagagag      420
377 gatgaaaatc caaaggttgc tgaagttatc tatccaataa tgcagggttaa tccgtgtcat      480
379 tatcatggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca      540
381 agggagcttt taccaaaaaa ggttgtttgt attcacaacc ctgtcttaac gggtttggat      600
383 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctgttgatga ctctccagaa      660
385 gagattaggg ctaagataaa gaaagcatat tgcccagctg gagttgttga aggaaatcca      720
387 ataattggaga tagctaaata cttccttgaa tatcctttta ccataaaaag gccagaaaaa      780
389 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag      840
391 gaattgcata caatggattt aaaaaatgct gtagctgaag aacttataaa gatttttagag      900
393 ccaattagaa agagatta                                     918
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397 <211> LENGTH: 918
398 <212> TYPE: DNA
399 <213> ORGANISM: artificial
401 <220> FEATURE:
402 <223> OTHER INFORMATION: tRNA synthetase based on M. jannaschii tyrosyl-tRNA
synthetase
404 <400> SEQUENCE: 10
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407 agagagggttt taaaaaaaga tgaaaaatct gctgctatag gttttgaacc aagtggtaaa      120
409 atacatttag ggcattatct ccaaataaaa aagatgattg atttacaaaa tgctggattt      180
411 gatataatta tattgttggc tgatttacac gcctatttaa accagaaagg agagttggat      240
413 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca      300
415 aaatatgttt atggaagtcg gttccagctt gataaggatt atacactgaa tgtctataga      360
417 ttggctttta aaactacctt aaaaagagca agaaggagta tggaaacttat agcaagagag      420
419 gatgaaaatc caaaggttgc tgaagttatc tatccaataa tgcagggttaa tgtgattcat      480
421 tatgatggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca      540
423 agggagcttt taccaaaaaa ggttgtttgt attcacaacc ctgtcttaac gggtttggat      600
425 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctgttgatga ctctccagaa      660
427 gagattaggg ctaagataaa gaaagcatat tgcccagctg gagttgttga aggaaatcca      720
429 ataattggaga tagctaaata cttccttgaa tatcctttta ccataaaaag gccagaaaaa      780
431 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag      840
433 gaattgcata caatggattt aaaaaatgct gtagctgaag aacttataaa gatttttagag      900
435 ccaattagaa agagatta                                     918

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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:22; Xaa Pos. 7

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,22,23,24

VERIFICATION SUMMARY

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L:11 M:270 C: Current Application Number differs, Replaced Current Application Number

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:1030 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0